

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 60-254432

(43)Date of publication of application : 16. 12. 1985

(51)Int. Cl. G11B 7/26
// B41M 5/00
H01L 21/30

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(54) EXPOSURE DEVICE

(57)Abstract:

PURPOSE: To continuously make more stable exposure with high reproducibility by combining the control of exposing conditions with the use of a photosensitive film (film to be exposed) made of an inorganic material and having a special property.

CONSTITUTION: A laser light of a small output is irradiated upon a photosensitive film 2 immediately after the film 2 is exposed from a helium-neon light source 9 above the film 2 (irradiating direction is shown by the dotted line). The laser light is diffracted by the exposure pattern of the film 2 namely the pattern formed by the difference in intensity of light reflectivity and a 0-order primary and secondary diffracted lights (respectively represented as J0 J1 and J2) are produced. The diffracted lights are respectively monitored with exclusively used photodetectors 910 and 10' (provided on a moving stage 8) and intensities of the diffracted lights are inputted in a control circuit 11 after they are converted into analog voltages. At the control circuit 11 for example a pattern width is calculated from the magnitude of a given voltage and the optimum light intensity modulating condition required to obtain a desired pattern width is determined. The light intensity of the

argon laser light is modulated by a light modulator 5.